

REMARKS

Claims 1-27 are currently pending in this application. Claims 3, 7, 25 and 26 have been amended. Originally filed dependent claims 3 and 7 have been amended to include all intervening dependencies and, thus, are independent claims. Claims 25 and 26 have been amended to correct typographical errors. Claims 28-30 have been added. No new matter has been added. Claims 1-30 will be pending after entry of this amendment. Reconsideration of the claims is respectfully requested.

Allowed Claims

Dependent claims 3 and 7 have been rewritten into independent form, including all intervening dependencies. Thus, independent claims 3 and 7 should be allowable.

Drawings

The Applicants have amended FIGS. 1, 4a, and 5b in the manner suggested in the Office Action. See pages 3-4 of the Office Action. No new matter has been added and the drawing objections should be withdrawn.

Specification Objections

As suggested in the Office Action at pages 4,5, the Applicants have amended the term “vents 58” to --vents 58a,b -- in three different passages. No new matter has been added. The Applicants respectfully request that the specification objections be withdrawn.

Claim Objections

Claims 25 and 26 were objected to because of an informality for lacking antecedent basis for the phrase “said electrode”. These claims have been amended to include the term “said electrode layer” or “said first and second electrodes.” The Applicants respectfully request that the claim objections be withdrawn.

35 U.S.C. § 102 Rejections

The Office Action has applied references to selected claims of the pending application. The Applicants will individually discuss each of these references and the claims that were rejected thereby. To expedite prosecution the Applicants will comment on new independent claims 28 and 30 with respect to the applied references.

Claim 1 recites “at least one vent for venting said sample cavity, said at least vent having at least one sample guide edge for guiding said sample fluid to said at least one test region” and claim 11 recites “directing said sample fluid through said sample cavity toward at least one test region of said sensor using at least one sample guide edge provided on at least one vent.” Claim 18 recites “first and second vents within said sample cavity, said first and second vents having respective first and second vent edges and being disposed along a fluid pathway of said sample cavity such that said first vent is closer to said fluid inlet than said second vent is”; “a first reagent area disposed along said sample cavity beneath said first vent”; and “a second reagent area disposed along said sample cavity beneath said second vent.”

Claim 23 recites “said sample cavity having . . . first and second vents disposed along a fluid pathway”, “said first and second vents having first and second vent edges” and “guiding said fluid sample along said fluid pathway via capillary action such that said fluid passes said first vent before passing said second vent.” Claim 25 recites first and second vents having first and second sample guide edges opposing each other “above at least one of said central portions of said first and second electrodes.”

Claim 27 recites “said vent having at least one sample guide edge for guiding fluid under capillary action within said sample cavity during filling of said sample cavity.” Claim 28 recites “guiding said fluid sample along a fluid pathway such that said sample fluid is directed by said at least one sample edge to said at least one test region.” Claim 30 recites “said first vent having a first sample guide edge and said second vent having a second sample guide edge, said first and second sample guide edges being located to assist in guiding said fluid sample to said at least one test region.”

In the present specification, Applicants disclose non-limiting examples of sensors that utilize vents to direct sample fluid toward desired testing locations. See, e.g., page 3, lines 11-12; FIGS. 3, 4a-c, 5a-d, 6a-f. The Applicants disclose a non-limiting example of a guide edge of one or more vents that guides the fluid sample away from the outer edges of the electrode and toward the middle of the electrode where optimum electrical contact between the sample fluid and the electrode can be made. See, e.g. page 4, lines 25-27; page 5, lines 1-3; FIG. 3. The placement of the vents and their guide edges in the present invention is advantageous because the direction and speed of the entering fluid flow is subsequently controlled. See page 5, lines 5-28.

U.S. Patent No. 5,798,031 to Charlton

U.S. Patent No. 5,798,031 to Charlton et al. (“Charlton”) does not disclose, teach or suggest at least one vent having at least one sample guide edge or two vents having sample guide edges as recited in independent claims 1, 11, 27, 28 and 30. Rather, Charlton discloses an air vent 50 located at an end of a sample cavity 48 such that fluid flows to the testing region (i.e., a reagent layer 44) in the sample cavity 48, before reaching the air vent 50. See, e.g., FIG. 1 of Charlton. Thus, no portion of air vent 50 can provide a sample guide edge as recited in the claims 1, 11, 27, 28 and 30. The fluid in Charlton is drawn up into the sample cavity 48 and reacts with the reagent layer 44 before fluid reaches air vent 50. See col. 5, lines 59-67 of Charlton.

Therefore independent claims 1, 11, 27, 28 and 30 are not anticipated by or rendered obvious over Charlton. The Office Action also applied Charlton to selected dependent claims 8-10 and 12-14. See pages 5-6 of the Office Action. Claims 8-10 and 12-14 depend either directly or indirectly on claims 1 or 11, and are not anticipated by or rendered obvious over Charlton for at least the reasons discussed in connection with claim 1 or 11. Thus, dependent claims 8-10 and 12-14 should also be in a condition for allowance.

EP No. 0 537 761 to Yoshioka

EP No. 0 537 761 to Yoshioka et al. (“Yoshioka”) does not disclose, teach or suggest at least one vent having at least one sample guide edge or two vents having sample guide edges as recited in independent claims 1, 11, 27, 28 and 30. Yoshioka also does not disclose, teach, or suggest “said first vent having a first sample guide edge and said second vent having a second sample guide edge opposing said first sample guide edge, said first and second sample guide edges opposing each other above at least one of said central portions of said first and second electrodes” as recited in independent claim 25. Rather, Yoshioka discloses air ports 24 and 28, located at the end of sample supply ports 23 and 27, respectively, such that fluid flows to the testing region (i.e., reagent area 50 and electrodes 6, 7) before reaching the air ports 24 and 28. See, e.g., FIG. 6 of Yoshioka. In particular, fluid enters supply ports 23 and 27 of Yoshioka and reacts with reagent 50 before reaching air ports 24 or 28 of Yoshioka. Thus, no portion of the air vents 24 and 28 provides the sample guide edge(s) as recited in independent claims 1, 11, 25, 27, 28 and 30.

Therefore independent claims 1, 11, 25, 27, 28 and 30 are not anticipated by or rendered obvious over Yoshioka. The Office Action also applied Yoshioka to selected dependent claims 8-10, 12-14, and 26. See pages 6-8 of the Office Action. Claims 8-10, 12-

14 and 26 depend either directly or indirectly on claim 1, 11 or 25 and are not anticipated by or rendered obvious over Yoshioka for at least the reasons discussed in connection with claims 1, 11 or 25. Thus, dependent claims 8-10, 12-14, and 26 should be in a condition for allowance.

WO 03/012421 to Yoshida

WO 03/012421 to Yoshida et al. (“Yoshida”) does not disclose, teach or suggest at least one vent having at least one sample guide edge or two vents having sample guide edges as recited in independent claims 1, 11, 27, 28 and 30. Yoshida also does not disclose, teach or suggest “said first vent having a first sample guide edge and said second vent having a second sample guide edge opposing said first sample guide edge, said first and second sample guide edges opposing each other above at least one of said central portions of said first and second electrodes” recited in independent claim 25. Rather, Yoshida discloses through-holes 51-53 located at an end of a sample cavity 60 such that fluid flows to the testing region (i.e., reactor 36) in the sample cavity 60, before reaching the thorough-holes 51-53. See, *e.g.*, FIG. 2 of Yoshida. Thus, no portion of through-holes 51-53 in Yoshida provides the sample guide edge(s) as recited in independent claims 1, 11, 27, 28 and 30.

Therefore independent claims 1, 11, 25, 27, 28 and 30 are not anticipated by or rendered obvious over Yoshida. The Office Action also applied Yoshida to selected dependent claims 8-10, 12-15, and 26. Claims 8-10, 12-15, and 26 depend either directly or indirectly on claim 1, 11 or 25 and are not anticipated by or rendered obvious over Yoshida for at least the reasons discussed in connection with claims 1, 11 or 25. Thus, dependent claims 8-10, 12-15, and 26 should be in a condition for allowance.

U.S. Patent No. 5,120,420 to Nankai

U.S. Patent No. 5,120,420 to Nankai et al. (“Nankai”) does not disclose, teach, or suggest at least one vent having at least one sample guide edge or two vents having sample guide edges recited in independent claims 1, 11, 27, 28 and 30. Nankai also does not disclose, teach, or suggest “said sample cavity having . . . first and second vents disposed along a fluid pathway”, “said first and second vents having first and second vent edges” and “guiding said fluid sample along said fluid pathway via capillary action such that said fluid passes said first vent before passing said second vent” as recited independent claim 18.

Nankai also does not disclose, teach, or suggest “said sample cavity having . . . first and second vents disposed along a fluid pathway”, “said first and second vents having first

and second vent edges” and “guiding said fluid sample along said fluid pathway via capillary action such that said fluid passes said first vent before passing said second vent” as recited in independent claim 23. Nankai also does not disclose, teach or suggest “said first vent having a first sample guide edge and said second vent having a second sample guide edge opposing said first sample guide edge, said first and second sample guide edges opposing each other above at least one of said central portions of said first and second electrodes” recited in independent claim 25.

The Office Action refers to FIGs. 12 and 13 of Nankai and corresponding description in column 8. In FIG. 12, Nankai discloses discharge ports 11-13 located at an end of a space 8 such that fluid flows to the testing region (i.e., measurement electrodes 41-43) in the space 8 before reaching discharge ports 11-13. Thus, no portion of discharge ports 11-13 in Nankai provides the sample guide edge(s) as recited in claims 1, 11, 25, 27, 28 and 30. Additionally, no portion of discharge ports 11-13 in Nankai guides the fluid sample along the fluid pathway such that fluid passes the first vent before passing the second vent as recited in claims 18 and 23. In FIG. 13, Nankai discloses an introducing port 10, discharge ports 11, 12 and a spacer that forms spaces 81, 82. The fluid in the embodiment of FIG. 13 enters the testing region (measurement electrodes 41 and 42) through the introducing port 10. Thus, no portion of discharge ports 11, 12 of FIG. 13 in Nankai provides the sample guide edge(s) as recited in claims 1, 11, 25, 27, 28 and 30. Additionally, no portion of discharge ports 11, 12 of FIG. 13 in Nankai guides the fluid sample along the fluid pathway such that fluid passes the first vent before passing the second vent as recited in claim 23.

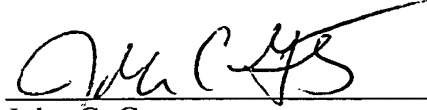
Therefore independent claims 1, 11, 18, 23, 25, 27, 28 and 30 are not anticipated by or rendered obvious over Nankai. The Office Action also applied Nankai to selected dependent claims 2, 4-6, 8-10, 12-17, 19-22, 24, and 26. See pages 10-13 of the Office Action. Claims 2, 4-6, 8-10, 12-17, 19-22, 24, 26 and 29 depend either directly or indirectly on claims 1, 11, 23, 25 or 28 and are not anticipated by, or rendered obvious over Nankai for at least the reasons discussed in connection with claim 1, 11, 18, 23, 25 and 28. Thus, dependent claims 2, 4-6, 8-10, 12-17, 19-22, 24, 26 and 29 should be in a condition for allowance.

CONCLUSION

The Applicants submit that the claims are in a condition for allowance and action toward that end is earnestly solicited. The Commissioner is authorized to charge the additional claims fees of \$990.00 and any additional fees required (except for payment of the issue fee), to the Nixon Peabody Deposit Account No. 50-4181, Order No. 247082-00115USPX.

Respectfully submitted,

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